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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/730,058      | 12/09/2003  | Yoshio Mukaiyama     | 10517/204           | 2977             |

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EXAMINER

BLOUNT, ERIC

|          |              |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

2636

DATE MAILED: 01/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 10/730,058             | MUKAIYAMA, YOSHIO   |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | Eric M. Blount         | 2636                |  |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 December 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 9-11 and 14-16 is/are rejected.
- 7) ☒ Claim(s) 4, 6-8, 12, 13, 17 and 18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>12092003, 12132005</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 9, 11, and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuji et al [U.S. Patent No. 6,327,536 B1] in view of Wehner et al [U.S. Patent No. 6,791,471 B2].

Regarding **claims 1, 9, 11, and 16**, Tsuji discloses a driving support system for a vehicle comprising an image-capturing portion (1R, 1L) that obtains image information on an area ahead of the vehicle (Figures 2 and 18). The vehicle three-dimensionally determines a possibility that an estimated running vector of a moving object will intersect with an estimated running vector of the vehicle based on image information (column 1, lines 53 - column 2, line 46). Tsuji teaches that an image capturing means is used to detect an object in the traveling path of a vehicle. Through the use of the images captured, the system is able to determine the information regarding the movement of the vehicle and whether a collision with the object is likely. Tsuji does not specifically teach that the moving object communicates the vehicle through mobile communications.

In an analogous art, Wehner discloses a vehicle drive support system wherein a vehicle and a moving object can communicate through mobile communications (Figure 1 and column 1, lines 34-47). The vehicle determines a possibility of a collision with the moving object based on the mobile communication information. It would have been obvious to one of ordinary skill in the art at the time of the invention by the applicant to combine the teachings of Tsuji and Wehner because a combination would provide a drive support system that would reduce false alarms (Tsuji, column 2, lines 29-32) and provide an accurate warning of an impending collision. One of ordinary skill in the art would have recognized that the use of mobile communications and image capturing would both provide positional information about the vehicle and the moving object. The use of both results would provide a redundant determination of whether a collision is likely. Wehner suggest that a camera may be used in the invention (column 10, lines 43-52).

Regarding **claims 2 and 3**, Wehner discloses that various types of positional information may be exchanged through mobile communications (column 1, lines 52-56). Further, status information may also be exchanged between a moving object and a vehicle. Status information may include signals indicating an emergency vehicle or school bus (column 2, lines 3-8). One of ordinary skill in the art would have recognized that status information might include the type of moving object. In another embodiment, one of ordinary skill in the art would have recognized that the moving object could be an emergency vehicle, which would broadcast its signal to the vehicle.

As for **claim 14**, Tsuji discloses that an information providing portion provides a drive with a warning concerning presence of a moving object whose estimated running vector will intersect with the estimated running vector of the vehicle (column 3, lines 25-33).

As for **claim 15**, it was well known in the art to provide displays for warning observers of the degree or urgency of an alarm condition. Examiner takes official notice that it would have been obvious to one of ordinary skill in the art at the time of the invention by the applicant to provide a warning to the driver indication a danger level of an impending collision.

3. Claims 5 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wehner in view of Tsuji.

As for **claims 5 and 10**, Wehner discloses a drive support system for a vehicle comprising a moving object, which transmits various types of information on the moving object through mobile communications (column 1, lines 50-56). A first vehicle receives information transmitted from the moving object and determines a possibility that a collision will occur between the vehicle and the moving object (column 1, lines 33-65).

In an analogous art, Tsuji discloses a driving support system for a vehicle wherein altitude information is used to three-dimensionally determine a possibility that an estimated running vector of the moving object will intersect with an estimated running vector of the first vehicle (column 2, lines 37-49). It would have been obvious to one of ordinary skill in the art at the time of the invention by the applicant to modify the

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invention of Wehner to include altitude information and three-dimensional determining means taught by Tsuji because the modification would result in a more accurate drive support system. More particularly, the drive support system would be capable of warning the drive of the first vehicle of an impending collision with a moving object even when driving on a hilly road.

### ***Allowable Subject Matter***

4. Claims 4, 6, 7, 8, 12, 13, 17, and 18 are objected to as being dependent upon a rejected base claim, but would it appears that they would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. All cited references teach each collision avoidance or vehicular communications units that were known in the art at the time of the present invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric M. Blount whose telephone number is (571) 272-2973. The examiner can normally be reached on 8:00 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Hofsass can be reached on (571) 272-2981. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Eric M. Blount  
Examiner  
Art Unit 2636

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